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10/542,862	01/11/2006	Andrew John Cook	1021500-000138	8659

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EXAMINER

LANGMAN, JONATHAN C

ART UNIT	PAPER NUMBER
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1784

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com
offserv@bipc.com

Office Action Summary	Application No. 10/542,862	Applicant(s) COOK ET AL.	
	Examiner JONATHAN C. LANGMAN	Art Unit 1784	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-11 and 20 is/are pending in the application.
- 4a) Of the above claim(s) 11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-10 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 5, 8, 9, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by, or in the alternative, rejected under 35 U.S.C. 103(a) as being unpatentable over Castle et al. (EP 1110431) as evidenced by Sarkhel et al. (US 2001/0002982).

Regarding claims 1 and 20, Castle et al. teach as seen in Figure 2, a glass sheet, 22, a busbar, 6, and a low melting solder, 26. The low melting solder is used to connect to the heating wires, 3, as seen in figure 1 ([0021] and [0023]). The busbar, 6, and the heating wires, 3, read on the first and second electrically conductive components instantly claimed joined by the low melting point solder, 26.

The low melting solder is taught to be either lead/bismuth eutectic or tin/bismuth eutectic with a melting point of 138°C ([0003] and [[0021]). Castle is silent to the composition of the Tin/bismuth eutectic solder, however, tin/bismuth eutectic solder is a lead free solder known in the art to comprise tin in amounts of less than 50% and a mechanical stress modifier comprising bismuth. Sarkhel et al. evidences that the eutectic Bismuth/Tin solder known in the art is 58-Bi/42-Sn, which has a melting point of 138°C ([0040]).

Bismuth is considered a mechanical stress modifier and reads on the claims as presented. Although Castle et al. do not refer to bismuth as a mechanical stress modifier, these solders share compositions similar to those instantly claimed, and therefore are expected to behave in similar manners to those instantly claimed (i.e. which inhibits the occurrence of a stress fault (i.e. crack) in the pane of glass in the region of the solder). It has been held that where the claimed and prior art products are identical or substantially identical in structure or are produced by identical or a substantially identical processes, a *prima facie* case of either anticipation or obviousness will be considered to have been established over functional limitations that stem from the claimed structure. *In re Best*, 195 USPQ 430, 433 (CCPA 1977), *In re Spada*, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). The ***prima facie*** case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed products. *In re Best*, 195 USPQ 430, 433 (CCPA 1977).

Since Castle et al. teach the same solder composition as instantly claimed, i.e. a solder with less than 50 wt% Tin and that the solder also comprises bismuth, it is inherent that the solder will behave in the same manner as instantly claimed. It is inherent that the solder will inhibit the occurrence of a stress fault in the pane of glass in the region of the solder.

Regarding claim 4, since the vehicular glazing panel of Castle et al. is the same as the instantly claimed vehicular glazing panel, it is inherent that it will exhibit the same fall in the stress as generated in the pane of glass, after an initial rise, described as a function of time, as instantly claimed (see *in re best* case law applied above).

Regarding claim 5, Castle et al. teach a fired ink band, 26, known as an obscuration band that is provided around the periphery of the windshield in order to obscure the busbars during operation (Figures 1, 2, [0022] and [0023]). Castle described how the bus bars may be formed on either ply of glass ([0024], and therefore the bus bar (first electrically conductive component) will at least exist partially on top of the obscuration band of Castle in the same context as instantly claimed. .

Regarding claim 8, it is inherent that since the vehicular glazing panel of Castle et al. is the same as the instantly claimed vehicular glazing panel, that it will exhibit the same stress fault wherein, the stress fault manifests itself as a structural defect in the interface between the solder and the first electrically conductive component. See *In Re Best* as applied above.

Regarding claim 9, Castle et al. teach that the second electrical component is a heater, and is silent to the second electrical component being an electrical connector. However, the applicant has not defined what an electrical connector is, and the heating wires of Castle may be construed as an electrical connector.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 6, 7, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Castle et al. (EP 1110431) as evidenced by Sarkhel et al. (US 2001/0002982), as applied to claims 1, 4, 5, 8, 9, and 20 above, in view of admitted prior art.

Regarding claims 6 and 7, the applicant claims the glass as toughened and as a laminate, Castle et al. is silent to the use of toughened or one-ply laminates as the glass substrate, however, the applicant teaches that these substrate are obvious known alternatives in the art, and thus functional equivalents (instant specification, page 2 last paragraph to page 3, first paragraph). It would have been obvious to a person having ordinary skill in the art at the time the present invention was made to use toughened glass or to have glass that is one ply of a laminate.

It is inherent that since the vehicular glazing panel of Castle et al. in view of the admitted prior art, is the same or substantially the same as the instantly claimed vehicular glazing panel, that it will exhibit the same stress faults for the respective substrates. See *In Re Best* as applied above.

Regarding claims 9 and 10, Castle et al. only discuss the soldering of busbars to defrosters or defoggers. Castle et al. do teach the use of antennas, and defrosters being soldered to an electrically conductive band on a glass windshield. However, in combination with the applicants own admitted prior art on page 2 of the instant specification, it would have been obvious to a routineer in the art to use the solder of Castle et al. with the devices instantly claimed, as the applicants own admitted art, shows that this is common and known practices in the art.

Response to Arguments

The rejection under 35 U.S.C. 102(b) of claims 1, 4, and 8, as anticipated by Pereira have been removed in light of the teaching of lead in the table of col. 2, and in col. 3, lines 39.

The 103a rejection of claims 5, 6, 7, 9, and 10 in view of Pereira and admitted prior art has been removed for reasons mentioned in the previous paragraph.

The 103a rejection over claim 20 in view of Pereira and Castle has been removed in light of the 102 rejection over castle as presented previously and above.

The Examiner apologizes for an inadvertent mistake to the rejection header of claims 6, 7, 9, and 10, as set forth on page 10 of the office action dated November 27, 2009. The heading of the rejection inadvertently states that Pereira is the primary reference, however, Castle is in fact the primary reference, as is recognized in the body of the rejection..

On pages 6-7, the applicant argues that there is no evidence that Castle's tin/bismuth eutectic solder is the same as Sarkhel's 42% tin/58% bismuth eutectic solder. The applicant further argues that there is no evidence on the record that castles tin bismuth eutectic solder contains only tin and bismuth without lead, that is that the tin/bismuth eutectic solder described by Castle is lead free.

The examiner disagrees with the applicant's position. Castle teaches that the solder is a tin bismuth eutectic solder with a melting point of 138°C. Sarkhel teaches a tin/bismuth eutectic solder with a melting point of 138°C. Sarkhel continues to teach

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that this eutectic solder with this melting temperature consists of 58%Bismuth and 42% tin.

Sarkhel's teaching of the same low melting point and the fact that they are both eutectic solders is sufficient enough to establish a *prima facie* case that the eutectic solder described by Castle is 42% tin and 58% bismuth.

The burden is on the applicant to show that the bismuth/tin eutectic solder with a melting point of 138°C as described by Castle is not necessarily the eutectic bismuth tin solder composition with a melting point of 138°C with a composition of 42% Tin and 58% bismuth as is recognized in the art by Sarkhel.

The examiners position is further supported in that any addition of lead, or any other component for that matter, would alter the melting point of the eutectic alloy to deviate from the 138°C taught by both Castle and Sarkhel. Lead is known to have a high melting point of 327°C which would with any amount of addition significantly raise the melting point of the eutectic solder.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JONATHAN C. LANGMAN whose telephone number is (571)272-4811. The examiner can normally be reached on Mon-Thurs 8:00 am - 6:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

JCL

/Timothy M. Speer/
Primary Examiner, Art Unit 1784